DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Proposed Listing of Virgin River Chub as an Endangered Species, With Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to lis *Gila robusta seminuda*, the Virgin Riv chub, to be an endangered species an to determine its critical habitat under the authority contained in the Endangered Species Act of 1973, as amended. The chub occurs in the Virg River in Arizona, Nevada, and Utah a is threatened by habitat alteration through water diversion, desalinizatio urban growth, impoundment, pollution sedimentation, and other adverse modifications; and by competition and predation by exotic fish species. It is particularly vulnerable to these threat

because of its very limited range. A final determination of *Gila robusta seminuda* to be an endangered species would implement for it the full protection provided by the Endangered Species Act of 1973, as amended. The Service seeks data and comments from the public on this proposal.

DATES: Comments from all interested parties must be received by August 25, 1986. Public hearing requests must be received by August 8, 1986.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Regional Director, U.S. Fish and Wildlife Service, P.O. Box 1306, 500 Gold Avenue, SW., Room 4000, Albuquerque, New Mexico 87103. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Mr. Gerald Burton, Endangered Species Biologist, U.S. Fish and Wildlife Service, Albuquerque, New Mexico (see **ADDRESSES** above) (505/766–3972 or FTS 474–3972).

SUPPLEMENTARY INFORMATION:

Background

Gila robusta seminuda was first collected and described from the Virgin River near Washington, Utah, by members of the Wheeler Survey (Cope and Yarrow 1875). It was described as intermediate between *Gila robusta* and *Gila elegans*. Later authors described it as a subspecies of *robusta* along with other chubs from various stream systems in the Colorado River basin (Ellis 1914, Miller 1946, LaRivers and Trelease 1952). Holden and Stalnaker (1970) determined that the name *seminuda* referred only to the Virgin River chub, and that the specimens from other localities were various other subspecies of *Gila robusta*. Both Holden and Stalnaker (1970) and Minckley (1973) indicated that the Virgin River population was a valid subspecies, and Smith, *et al.* (1977) confirmed that determination with extensive taxonomic analyses.

The Virgin River chub is a very silvery medium-sized minnow, generally less than 15 centimeters (6 inches) in total length. The back, breast, and part of the belly have small, deeply embedded scales which are difficult to see and which may be absent in some individuals. This is the source of the subspecific name—*seminuda*.

A closely related form of *Gila robusta*, which appears to be an undescribed subspecies, is found in the Moapa River in Nevada. The Moapa River was originally a tributary of the Virgin River, but both are now tributary to Lake Mead, a reservoir on the Colorado River. Since the Moapa form of *Gila robusta* has also suffered population declines in the past has a reduced range and presently exist at low population levels, the question of whether this form is a part of the *seminuda* subspecies does not affect the present status of the Virgin River *seminuda* (Cross 1976, Deacon and Bradley 1972).

Gila robusta seminuda is endemic to the Virgin River in southwest Utah, northwest Arizona, and southwest Nevada. Historically, the Virgin River chub was abundant in the Virgin River (Cope and Yarrow 1875) and was found from near the location of the town of Riverside, Nevada, upstream to La Verkin Springs, near the town of Hurricane, Utah. However, recent studies (Cross 1975, Woundfin Recovery Team 1977 to 1984) indicate that a large decrease in range and numbers of this species has occurred in the last century, primarily from 1860 to 1900 when many of the present water diversions were constructed and the valley and riverbanks were highly modified by agricultural development. Present distribution of the Virgin River chub includes the mainstream of the Virgin River from the town of Mesquite, Nevada, upstream to La Verkin Springs, near the town of Hurricane, Utah. *Gila robusta seminuda* is the rarest native fish in the Virgin River.

Cross (1975) found very few young-of-the-year fish and very few adults over seven inches in standard length in his studies. This lack of recruitment of young chub seems to be an important factor in the present status of *Gila robusta seminuda*. The Woundfin Recovery Team reported chub reproduction in 1983 to be good due to high water, but found no evidence of successful reproduction in 1984. Hickman (1985), however, reported successful Virgin River chub reproduction in 1984 with young-of-the-year fish comprising 14 percent of his total catch.

Fish populations in a riverine situation are seldom stable from year to year. For example, the "good" populations of chub observed in recent years are the result of 1 good year of spawning and recruitment. Presently most of these fish are 3 years old, and will need water if they are to spawn. The ideal fish population should consist of a few older fish, a larger number of smaller but sexually mature fish, and a large number of young-of-the-year fish. An unhealthy fish population consists of all individuals of the same size and age. This last year's survey of the river showed little or no chub reproduction. The fish had a good year in 1983 and fish from that year continue to dominate the population. However, as this group of fish age and are lost to the population, they must successfully spawn if the subspecies is to continue. While data collected on the chub population using electrofishing may indicate a larger population than previously expected, it still does not offer any information relative to declines in the population. Consistent long-term sampling is needed to gain this type of information and presently this type of data does not exist. While electrofishing equipment produces more chubs than seines, the results offer nothing on population stability. It only shows chubs are more easily collected using electrofishing equipment and that the subspecies is still surviving in the Virgin River. Electrofishing data, like seining, can be valuable if it is collected over several years and chub populations are then compared on the basis of catch-per-unit of effort.

Lands along those portions of the Virgin River occupied by the Virgin River chub are owned by the Bureau of Land Management (BLM), the States of Utah and Arizona, and private landowners. In Arizona approximately 80 to 90 percent of the lands along the river are administered by BLM, with private land being concentrated in the vicinity of Littlefield. In Utah, about 13 miles of the lands along the river are BLM, the State has 4 parcels with small amounts of river frontage, and the remainder is privately owned. In Nevada, lands along the river above the town of Mesquite are privately owned.

This fish occurs only in the mainstream of the Virgin River; there is only one record of it ever being found in a tributary (Cross 1975). Within its habitat it is most common in deeper areas where waters are swift, but not turbulent, and is generally associated with boulders or other cover (Minckley 1973). It generally occurs over sand and gravel substrates in water less than 90 °F (32 °C), and it is very tolerant to high salinity and turbidity (Deacon and Holden 1977). The Virgin River chub is an omnivore, eating algae, aquatic and terrestrial insects, organic detritus, and crustaceans (Cross 1975).

The main reason for the decline in this subspecies is habitat alteration through the dewatering of major sections of the river by irrigation diversions. Potential threats to the species' survival include further water removal, desalinization, urban growth, sedimentation, pollution, channel alteration, and competition/predation by introduced fishes. The threats are magnified by the naturally limited range of this fish and its consequent vulnerability to extensive losses from a single threat.

The Virgin River chub is listed as endangered, due to habitat destruction, by the American Fisheries Society

(Deacon *et al.* 1979). The chub is currently listed by the State of Arizona as endangered, Group 2 (Arizona Game and Fish Comm. 1982), by the State of Utah as threatened (Utah Div. of Wild. Res. 1982), and by the State of Nevada as sensitive (Nev. Board of Wildlife Comm. 1981). In April 1983, the Woundfin Recovery Team recommended that this chub, which is found in the same river as the endangered woundfin (*Plagopterus argentissimus*), be added to the Federal list as endangered. Under contract with the Service, a status report on the Virgin River chub was prepared by Mr. C.O. Minckley. This 1983 report recommended that the chub be listed as endangered with critical habitat.

On August 23, 1978, the Service published a proposal to list the Virgin River chub as endangered with critical habitat (43 FR 37668). On September 30, 1980, the Service withdrew the above proposal, because it was not finalized within 2 years of its initial publication in the **Federal Register** (45 FR 64853) as required by the Endangered Species Act Amendments of 1978. On December 30, 1982, *Gila robusta seminuda* was included on the Vertebrate Notice of Review (47 FR 58454) in category 1. Category 1 includes those taxa for which the Service currently has substantial information on hand to support the biological appropriateness of proposing to list the species as endangered or threatened.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (codified at 50 CFR Part 424) set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act. These factors and their application to the Virgin River chub are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Habitat modification, both existing and potential, comprises the major threat to the survival of the Virgin River chub. Such modification includes, among other things, water diversion, desalinization, impoundment, road construction, urban growth, channelization, flood control, agricultural use of the stream banks, and water pollution. This modification has resulted in the complete loss of a portion of the historic habitat of the chub, and modification of much of the remaining habitat. Cross (1975) observed that the Virgin River chub was found 80 percent of the time in unmodified habitat, 20 percent of the time in slightly modified habitat, and only rarely in extensively modified habitat.

Since the mid-1800's there has been an ever-increasing demand for more extensive development and use of the waters of the Virgin River and its tributaries. This demand was originally for agricultural use, but in recent years also includes power generation and municipal uses. Washington County, Utah, is experiencing a rapid increase in population growth and a corresponding increase in the need for water resources. For example, the 1970 census listed the county population as 13,669 and the 1980 census listed it as 26,065. This is quite a rapid increase when one considers that the 1940 census listed the population at 9,269. The basic economy of the county is changing from farming and ranching to providing services associated with a growing retirement community. Water needs are increasing in proportion to the population. It is well documented that water availability will be a limiting factor in the future growth of this part of Utah. The threat to the Virgin River chub is not based upon what has happened for the past 40 years, but is based upon what is projected to happen in the next 40 years. As water in the Virgin River becomes more valuable due to a rapidly increasing population, it will not be used to irrigate cropland since it will be worth much more to those holding the water rights to sell them for the purpose of providing municipal and industrial water. The city of St. George, Utah, is undergoing large increases in population, and projected growth for the area around St. George is high, primarily from retirement and recreational populations. Thus, the water use patterns of the past are going to change, as will the way water in the Virgin River is managed. All past western water history indicates these changes are coming, and that they will be detrimental to the chub.

Large portions of the Virgin River Valley above and below the Virgin River Narrows are used for agriculture. This has resulted in the construction of five major water diversions that presently remove all flow from long stretches of the Virgin River during the height of the summer irrigation season (Vaughn Hansen Assoc. 1977). Three of these diversions are located within the present range of the Virgin River chub. Below these diversions summer flow in the river is often composed only of groundwater accretions and the input of La Verkin and Littlefield Springs. This flow depletion has obvious direct effects upon the fishes of the river. Other, less direct effects resulting from those diversions are consequent higher water temperatures; crowding of fish causing increased competition, predation, and disease; and increased pollution levels due to less dilution, and to the increased pollution load carried by irrigation return flows (Environmental Protection Agency, EPA 1977).

Various impoundment and water manipulation projects exist on or have been proposed for the Virgin River and its tributaries. Existing projects such as Gunlock Reservoir on the Santa Clara River, Kolob Reservoir on the East Fork of the Virgin River, and Ash Creek Reservoir on Ash Creek have not individually had major adverse impacts on the chub's habitat. However, each project results in cumulative loss or adverse changes through water withdrawal, changes in discharge patterns, pollution, sedimentation, stream channel modification, and other factors. The Quail Creek Water Reclamation Project, which is presently being constructed by the Washington County Water Conservancy District, will divert flood flows from the Virgin River near Hurricane, Utah, for storage in a reservoir on tributary Quail Creek (USDI BLM 1983). Because operation of this project will ensure year-round minimum water releases in the Virgin River of 86 cubic feet per second, a biological opinion issued by the Service in 1982 concluded that the project is not likely to jeopardize the existence of the woundfin (*Plagopterus argentissimus*), a federally listed endangered fish of the Virgin River. Although the habitat requirements of the Virgin River chub are different than those of the woundfin and are not well understood, it is probable that this project alone will not significantly affect the survival of Virgin River chub.

Several major potential projects have been or are being studied for the Virgin River, although none are presently considered viable. However, it is likely that modifications of those projects or other alternative projects will be constructed in the future, since the projected water needs for the area are much larger than the existing known water supply. A proposal by the Washington County Water Conservancy District (WCCD) to build the Warner Valley Energy System would have diverted water from the Virgin River for storage on a tributary, and would have reduced winter flows in the Virgin River (Vaughn Hansen Assoc. 1977). In 1982, the WCCD decided not to construct this project. The WCCD is presently

conducting a five year-study of the Virgin River fauna in order to determine the possibilities for future water development. Bureau of Reclamation projects which have been authorized for construction, but which are not presently considered viable, include the following. The Dixie Project would include two dams and extensive canals. This project was set aside when the Warner Valley Energy System was proposed. The La Verkin Springs Unit of the Lower Colorado River Water Quality Improvement Program (LCRWQIP) would involve total diversion and desalinization of the water from La Verkin Spring. Studies on this project were completed in 1984 and concluded that the project is presently uneconomical. Potential effects of this project are discussed under factors "C" and "E" below. The Lower Virgin River Unit of the LCRWQIP has as its objective the reduction of salinity in the Virgin River below Littlefield Spring in Arizona. This project is still under study. Effects of most of the alternatives being considered in this project would be of the same type, although probably less severe, as those discussed for the La Verkin Springs Unit.

In addition, the USDA Soil Conservation Service has several projects proposed in the Virgin River basin in Utah, including flood control and irrigation projects (Holt 1983). The effects of these projects on the Virgin River and the chub are not known, but it is possible they may adversely affect the chub's habitat unless planning includes protection for the chub and its habitat.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* There is no evidence to suggest overutilization of this fish for any of these purposes.

C. *Disease or predation.* The Virgin River, unlike other portions of the Colorado River basin, has relatively few exotic fish species. In the past 70 years only a few exotic predatory fish, such as green sunfish, black bullhead, and largemouth bass, have invaded the Virgin River with limited success. This is due primarily to the barrier effect of the naturally high salinity, temperature, and turbidity, and the highly fluctuating flows of the river. Flow in the Virgin River is subject to extreme lows in summer interrupted by heavy thunderstorm floods. Below La Verkin Springs the river becomes very saline due to the large, hot mineral flow of the springs. La Verkin Springs has a discharge of about 11 cubic feet per second, a temperature of 100° to 109° (35°–39 °C.) Fahrenheit, and a salinity of 9,650 milligrams per liter (Bureau of Reclamation 1983). Geologic formations through which the river and its groundwater accretions pass contribute to this salinity, and Littlefield Spring, just below the Virgin Narrows, also contributes a large quantity of highly saline water into the river. These extreme environmental conditions have served as a barrier to exotic fish invasion, because, unlike the native fauna which are adapted to these conditions, exotic fish find them difficult to survive. Any actions, such as impoundment or desalinization, which would alter these extreme environmental conditions would be detrimental to the survival of the Virgin River chub and the other native fishes, by allowing the incursion of exotic predatory and competitive species. The native fauna, having evolved in an environment where predation and competition were very limited, would be severely impacted by such incursion.

In the past, the fish fauna of the Virgin River has consisted almost entirely of native species. The few exotic species which were present consisted of a few individuals where were washed into the river from upstream reservoirs or off-stream ponds. The low-head older irrigation diversions have done little to retain flood flows which merely go over the tops of these structures. Research has found that these unregulated flood flows flush exotic fish species from southwestern river systems, but have much less impact on native fishes which have evolved in these extreme conditions. The problem arises when habitats change and the scales are tipped in favor of the exotic species. To date, we do not believe this has yet happened on the upper Virgin River; it may, however, happen at any time if the water flow is ponded or declines, or if salinities are decreased or increased, or if a supply of exotics is continuously introduced.

Parasites, probably introduced by exotic fish from Lake Mead, are a known problem in the Moapa River form of *Gila robusta* (Wilson *et al.* 1966). However, at present only minor infestations of black grub and learnea have been found in the Virgin River chub (Radant and Coffeen 1983).

D. *The inadequacy of existing regulatory mechanisms.* The State of Arizona currently lists the Virgin River chub under Group 2 of the Threatened Native Wildlife of Arizona (Arizona Game and Fish Comm. 1982). Group 2 includes those animals whose continued presence in Arizona is now in jeopardy. The State of Nevada lists it as sensitive (Nevada Board of Wildlife Comm. 1981), which includes those species that may be candidates for classification to a more restrictive status. The State of Utah lists it as threatened, meaning it is likely to become endangered in the foreseeable future. These state listings protect the chub from unregulated taking. However, none of these state listings provide habitat protection for the chub.

There are presently no provisions in Utah or Nevada water law for the acquisition and protection of instream water rights for the preservation of fish and wildlife and their habitat. This deficiency has been a major factor in the decline of many native fishes, and has made it difficult to protect such species as the Virgin River chub against the habitat losses caused by water diversions and impoundments.

E. *Other natural or manmade factors affecting its continued existence.* Displacement of Virgin River chub populations by exotic fishes may be a threat to the survival of the chub. The red shiner, which has been moving progressively upstream from Lake Mead, has recently been found upstream into Utah. It has been implicated in the decline of several other native species, is considered to be a threat to the federally endangered woundfin, and may be expected to present a significant threat to early life stages of the chub. Its upstream movement also indicates the possibility of threat to the chub from invasion by other exotic fish species. The competitive relationships between the Virgin River chub and exotic fish is further complicated by the extensive habitat alteration which has occurred. Many of these alterations have reduced the desirability of the habitat for the chub, and thereby may have tilted the competitive edge to exotic species. The naturally warm, saline, turbid waters of the Virgin River have been important in retarding the invasion of competitive exotic fishes into the river. Such an extreme habitat is undesirable for most exotic species, thus protecting the native species, particularly in the Utah portion of the river, from predation and competition by exotic species. Therefore, proposed desalinization projects for the Virgin River may pose a major threat to well-being of the native fish fauna of the river.

The naturally restricted range of the Virgin River chub, plus the degradation and loss of habitat which it has experienced in the past 130 years, make it extremely vulnerable to the threats enumerated above. Any activity affecting the quantity or quality of water in the Virgin River will affect all individuals of the subspecies. It is possible that the Virgin River chub

could become extinct as a result of a single action.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list the Virgin River chub as endangered. Endangered status seems appropriate for this chub because of the reduced range, the extensive past loss and alteration of habitat, and the high demand for future use of the remaining waters of the Virgin River.

Critical Habitat

Critical Habitat, as defined by section 3 of the Act means: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection, and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species.

Section 4(a)(3) of the Act requires that critical habitat be designated to the maximum extent prudent and determinable concurrently with the determination that a species is endangered or threatened. Critical habitat for *Gila robusta seminuda* is being proposed to include approximately 50 miles of the Virgin River in Arizona, Nevada, and Utah, from the Mesquite diversion dam near the town of Mesquite, Nevada, upstream to the Utah State Highway 9 (formerly 15) crossing north of the town of Hurricane, Utah, excluding an approximately 14-mile section of the Virgin River Narrows. This area was chosen for critical habitat designation because it presently supports the only known existing, self-perpetuating population of the Virgin River chub. This area provides all of the ecological, behavioral, and physiological requirements necessary for the survival of this chub. No smaller or alternative area would allow for the species' long-term survival and recovery. Not all sections of the area proposed for critical habitat provide year-round habitat for the chub. However, all of the proposed area contains habitat that is used during some portion of the year. Protection of this proposed critical habitat will ensure that sufficient numbers survive to prevent this subspecies from becoming extinct.

Section 4(b)(8) requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public or private) which may adversely modify such habitat or may be affected by such designation. Any activities which would deplete the flow or would significantly alter the existing flow regime in the Virgin River could adversely impact the proposed critical habitat. Such activities include, but are not limited to, water diversion, excessive groundwater pumping, and impoundment. Any activity which would extensively alter the channel morphology of the Virgin River could adversely impact the proposed critical habitat. Such activities include, but are not limited to, channelization, excessive sedimentation from agriculture and other watershed disturbances, impoundment, and riparian destruction. Any activity which would significantly alter the water chemistry in the Virgin River could adversely impact the proposed critical habitat. Such activities include, but are not limited to, release of chemical or biological pollutants into the waters at a point source or by dispersed release, and removal of natural chemical components. Additionally, the introduction, advertent or otherwise, or exotic fish species and their associated parasites into the Virgin River chub habitat could adversely affect the chub through predation, competition, and parasitism.

Section 4(b)(2) of the Act requires the Service to consider economic and other impacts of designating a particular area as critical habitat. The Service will consider the critical habitat designation in light of all additional relevant information obtained at the time of the final rule.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402 (see revision at 51 FR 19926 June 3, 1986). Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service.

Portions of the Virgin River flow through Bureau of Land Management lands, many of the potential water projects on the river are under the jurisdiction of the Bureau of Reclamation, and most construction and alteration activities in the river require an authorizing permit from the Army Corps of Engineers under Section 404 of the Clean Water Act. Activities by these agencies which would affect the Virgin River chub or its critical habitat may be affected by this proposal. In addition federally funded, authorized, or constructed flood control, agricultural, channelization, and highway and bridge construction projects might also be affected by this proposal.

The Act and its implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that had been illegally taken. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22

and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. In some instances permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

Public Comments Solicited

The Service intends that any final rules adopted will be as accurate and effective as possible in the conservation of any endangered or threatened species. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of these proposed rules are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or the lack thereof) to *Gila robusta seminuda;*

(2) The location of any additional populations of *Gila robusta seminuda* and the reasons why any habitat of this species should or should not be determined to be critical habitat as provided by Section 4 of the Act;

(3) Additional information concerning the range and distribution of this species;

(4) Current or planned activities in the subject area and their possible impacts on *Gila robusta seminuda;* and

(5) Any foreseeable economic and other impacts resulting from the proposed designation of critical habitat.

Final promulgation of the regulations on *Gila robusta seminuda* will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to the Regional Director, U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined by the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

Literature Cited

Arizona Game and Fish Commission. 1982. Threatened wildlife in Arizona. Arizona Game and Fish Dept. Publication. 12 pp.

Cope, E.D. and H.C. Yarrow. 1875. Report upon the collections of fishes made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, during the years 1871, 1872, 1873, and 1874. Report of the Geographical and Geological Exploration and Survey West of the 100th Meridian (Wheeler Survey) 5:635–703.

Cross, J.N. 1975. Ecological distribution of the fishes of the Virgin River (Utah, Arizona, Nevada). M.S. thesis, Univ. of Nevada at Las Vegas. 187 pp.

Cross, J.N. 1976. Status of the Native Fish Fauna of the Moapa River (Clark County, Nevada). Transactions of the American Fisheries Society 105(4):503–508.

Deacon, J.E. and W.G. Bradley. 1972. Ecological distribution of fishes of Moapa (Muddy) River in Clark County, Nevada. Transactions of the American Fisheries Society 101(3):408–419

Deacon, J.E. and P.B. Holden. 1977. Technical report analyzing the impact of the Allen-Warner Valley Energy System on the native fishes of the Virgin River. BIO/WEST, Inc., Logan, Utah. 21 pp.

Deacon, J.E., G. Kobetich, J.D. Williams, and J. Contreras. 1979. Fishes of North America endangered, threatened, or of special concern: 1979. Fisheries 4(2):29–44.

Ellis, M.M. 1914. Fishes of Colorado. Univ. of Colorado Studies 11(1):1–136.

Environmental Protection Agency. 1977. Water quality inventory and management plan for southwestern Utah (area wide waste treatment management plan). Five County Association of Governments, St. George, Utah, Nov. 1977.

Hickman, T.J. 1985. Study of fishes in the Virgin River (Utah) Annual Report, 1984. Western Ecosystems, St. George, Utah. 24 pp.

Holden, P.B. and C.B. Stalnaker. 1970. Systematic studies of the cyprinid genus *Gila* in the upper Colorado River basin. Copeia 1970(3):409–420.

Holt, F.T. 1983. Letter of December 28, 1983. USDA Soil Conservation Service, State Conservationist, Salt Lake City, Utah.

LaRivers, I. and T.J. Trelease. 1952. An annotated checklist of the fishes of Nevada. California Fish and Game 38(1):113–123.

Miller, R.R. 1946. *Gila cypha*, a remarkable new species of cyprinid fish from the Colorado River of Grand Canyon, Arizona. Journal of the Washington Academy of Science 36(13):409–415.

Minckley, W.L. 1973. Fishes of Arizona. Arizona Game and Fish Dept., Phoenix. 293 pp.

Nevada Board of Wildlife Commissioners. 1981. Identification of sensitive species of wildlife. Commission Policy Number 19.

Radant, R.D. and M. Coffeen. 1983. Virgin River reonnaissance sampling results, 13 and 14 September 1983. Utah Division of Wildlife Resources intra-office memorandum. 6 pp.

Smith, G.R., R.R. Miller, and D.W. Sable. 1977. Species relationships among fishes of the genus *Gila* in the upper Colorado River drainage. Proceedings of the First Annual Conference on Scientific Research in the National Parks. PP 613–623.

USDI Bureau of Land Management. 1983. Quail Creek Reservoir Project, Draft environmental assessment UT–040–2–84. July 1, 1983, Cedar City District Office, Cedar City, Utah.

USDI Bureau of Reclamation. 1983. Le Verkin Springs Unit, Utah. Plan of study, October, 1983.

Utah Division of Wildlife Resources. 1982. Status of selected nongame wildlife and plant species in Utah. September 1982.

Vaughn Hansen Associates. 1977. Impact of Warner Valley Water Project on endangered fish of the Virgin River. Prepared for the City of St. George, Utah. October 6, 1977.

Wilson, B.L., J.E. Deacon, and W.G. Bradley. 1966. Parasitism in the fishes of the Moapa River, Clark Co., Nevada. Transactions of the California-Nevada Section of the Wildlife Society 1966:12–23.

Woundfin Recovery Team. 1977 to 1984. Fish population monitoring activities on the Virgin River, Utah, Arizona, and Nevada. Semiannual reports to U.S. Fish & Wildlife Service, Albuquerque, New Mexico.

Authors

This rule was prepared by S.E. Stefferud, U.S. Fish and Wildlife Service, Endangered Species Staff, Albuquerque, New Mexico (505/766–3972 or FTS 474–3972). Technical information was provided by Mr. C.O. Minckley, 2820 N. 1st Street, Flagstaff, Arizona 86003.

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Proposed Regulations Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93–205, 87 Stat. 884; Pub. L. 94–359, 90 Stat. 911; Pub. L. 95–632, 92 Stat. 3751; Pub. L. 96–159, 93 Stat. 1225; Pub. L. 97–304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. It is proposed to amend § 17.11(h) by adding the following, in alphabetical order under "Fishes," to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species							
Common name	Scientific name	Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
FISHES							
Chub, Virgin River	*Gila robusta seminuda*	U.S.A. (AZ, UT, NV)	Entire	E		17.95(e)	NA

3. It is further proposed to amend 17.95(e) by adding critical habitat of *Gala robusta seminuda* as follows (The position of this entry under § 17.95(e) follows the same alphabetical sequence as the species occurs in 17.11):

§ 17.95 Critical habitat—fish and wildlife.

(e) * * *

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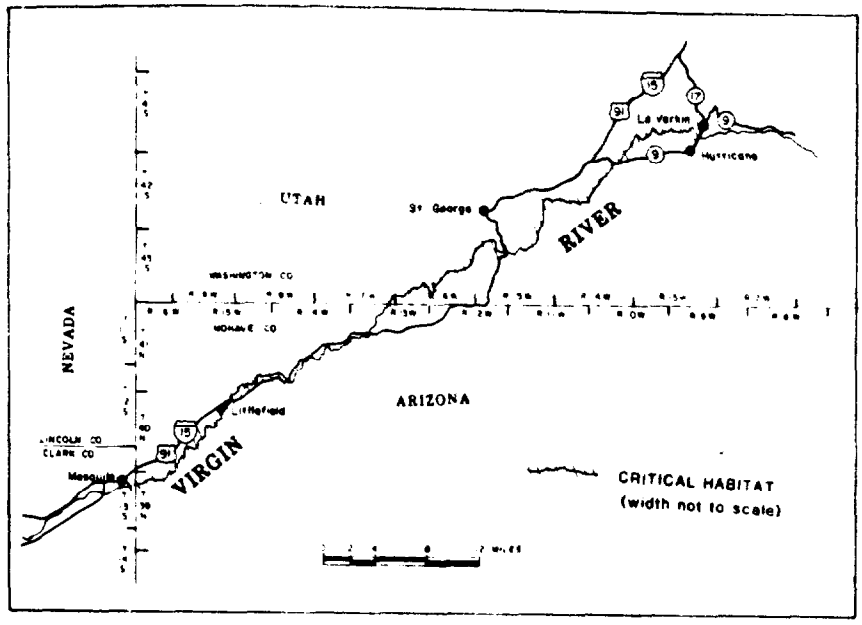
Virgin River Chub *(Gila robusta seminuda)*

Arizona. Mohave County. Main channel of the Virgin River from the Nevada-Arizona State line upsteam to the west boundary of Section 31; T41N; R14W.

Nevada. Clark County. Main channel of the Virgin River from the Mesquite diversion dam in the NE¼ of the NW¼ of Sec. 21; T13S; R71E upsteam to the Nevada-Arizona line.

Utah. Washington County. Main channel of the Virgin River from the Arizona-Utah State line upstream to the Utah State Highway 9 (formerly 15) crossing north of Hurrican. Utah (SW¼ of Sec. 25; T41S; R13W).



Known primary constituent elements include deeper pools and runs with cover in the mainstream channel; warm, saline, turbid water; rock-sand-gravel substrates: and few or no exotic fish species. Periodic flooding is necessary to maintain habitat quality.

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Dated: May 30, 1986.

P. Daniel Smith,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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